



PhD, Associate Professor
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Dr. Seiyed Mohammad Javad Hosseini

Fields of Interest

- Computational Fluid Dynamics (CFD),
- Numerical and Experimental Simulation of Fluid Flow and Heat Transfer,
- Nano fluid,
- Renewable Energy,
- Phase Change Materials (PCMs)
- Micro and mini channels

Education

Ph.D. in Mechanical Engineering - Energy Conversion

- 2008 –2012, Mazandaran University, Babol, Iran
- Dissertation: “Experimental and Numerical Simulation of Heat Transfer Enhancement in Shell and Tube Heat Exchanger using Nano-Particles and Extended Surfaces in PCM”
- Courses passed with GPA 18.44/20

M.Sc. in Mechanical Engineering – Energy Conversion

- 2006 – 2008, Mazandaran University, Babol, Iran
- Thesis: “Effect of wall-mounted obstacles on mixed convective heat transfer and entropy generation on in the Poiseuille–Benard Channel”
- Graduated on February 2008 with GPA 18.05/20

B.Sc. in Mechanical Engineering

- 2002 – 2006, Mazandaran University, Babol, Iran
- Thesis: “The Innovative Design and Implementation of the Wheel Wrench of Peugeot 206”
- Graduated on January 2006 with GPA 17.24/20

Journal Papers:

1. D.D. Ganji, **M.J. Hosseini**, J. Shayegh, "Some nonlinear heat transfer equations solved by three approximate methods", *International Communications in Heat and Mass Transfer* 34 (2007) 1003-1016.
2. S.M. Varedi, **M. J. Hosseini**, M. Rahimi, D.D. Ganji, "He's variational iteration method for solving a semi-linear inverse parabolic equation", *Physics Letters A* 370 (2007) 275-280.
3. N. Tolou, D.D. Ganji, **M. J. Hosseini** and Z.Z. Ganji, "Application of Homotopy Perturbation Method in Nonlinear Heat Diffusion-Convection- Reaction Equations", *the Open Mechanics Journal* 1(2007) 1874-1584.
4. A. Barari, **M. J. Hosseini**, D.D. Ganji, "Homotopy Perturbation Method for a non-linear cerebral reaction-diffusion equation", *the Arab journal of mathematics and mathematical sciences* 1 (2007) 127-136.
5. **M. J. Hosseini**, M. Farhadi, K. sedighi, "Effect of Wall-Mounted Obstacles on Convective Heat Transfer and Entropy Generation in the Poiseuille– Benard Channel", *Facta Universitatis, Series Mechanical Engineering* 6 (2008) 25-36.
6. **M. J. Hosseini**, M. Gorji, and M. Ghanbarpour, "Solution of Temperature Distribution in a Radiating Fin Using Homotopy Perturbation Method", *Mathematica Problems in Engineering* (2009) 115-122.
7. A. A. Ranjbar, M. Rahimi, **M. J. Hosseini**, Heat Transfer Enhancement in Pulsating Flows Through Parallel Bluff Plates, *Journal of Enhanced Heat Transfe* 17 (2010) 125-138.
8. M. Rahimi, **M. J. Hosseini**, A. Barari, Differential Transformation Method for Temperature Distribution in a Radiating Fin, *Heat Transfer Research* 42 (2011).
9. M. Rahimi, **M. J. Hosseini**, A. Barari, G. Domairry, M. Ebrahimpour, Analytical Evaluation of heat transfer conductivity with variable properties, *Technical Gazette* 3 (2011) 315-320.
10. M. Rahimi, **M. J. Hosseini**, A.A. Ranjbar, Natural convection of nanoparticle–water mixture near its density inversion in a rectangular enclosure, *International Communications in Heat and Mass Transfer* 34 (2011) 126–133.

11. **M. J. Hosseini**, A.A. Ranjbar, K. Sedighi, M. Rahimi, A combined experimental and computational study on the melting behavior of a medium temperature phase change storage material inside shell and tube heat exchanger, *International Communications in Heat and Mass Transfer* 24 (2012) 107-115.
12. M. Rahimi, **M. J. Hosseini**, A.A. Ranjbar, Natural convection of Nano-particle–water mixture near its density inversion in a rectangular enclosure, *International Communications in Heat and Mass Transfer* 34 (2012) 126–133.
13. **M. J. Hosseini**, M. Rahimi, A. Barari, Application of the Differential Transformation Method to Some Systems of Nonlinear Equations Arising in Fluid Flows with Variable Viscosity, *ACTA PHYSICA POLONICA A*, 122 (2012) 96-102.
14. **M. J. Hosseini**, A.A. Ranjbar, K. Sedighi, M. Rahimi, Melting of Nanoparticle-Enhanced Phase Change Material inside Shell and Tube Heat Exchanger, *Hindawi Publishing Corporation Journal of Engineering* Volume (2013), Article ID 784681, 8 pages.
15. **M. J. Hosseini**, M. Rahimi, R. Bahrapoury, Experimental and computational evolution of a shell and tube heat exchanger as a PCM thermal storage system, *International Communications in Heat and Mass Transfer* 50 (2014) 128–136.
16. M. Rahimi, A.A. Ranjbar, D. D. ganji, **M. J. Hosseini**, R. Bahrapoury, Analysis of geometrical and operational parameters of PCM in a fin and tube heat exchanger, *International Communications in Heat and Mass Transfer* 53 (2014) 109–115.
17. M. Rahimi, A.A. Ranjbar, K. Sedighi, **M. J. Hosseini**, Experimental investigation of phase change inside a finned-tube heat exchanger, *Hindawi Publishing Corporation Journal of Engineering* Hindawi Publishing Corporation Journal of Engineering Volume (2014), Article 641954, 11 pages.
18. **M. J. Hosseini**, A.A. Ranjbar, M. Rahimi, R. Bahrapoury, Experimental and Numerical Evaluation of Longitudinally Finned Latent Heat Thermal Storage Systems, *Energy and Building* 99 (2015) 263–272.
19. R. Pakrouh, **M. J. Hosseini**, A.A. Ranjbar, A parametric investigation of a PCM-based pin fin heat sink, *Mechanical Science* 6 (2015) 67–73.

20. M. Rahimi, A. A. Ranjbar, **M. J. Hosseini**, The Effect of Blockage Ratio on Heat Transfer and Entropy Generation in Pulsating Flow over Parallel Bluff Plates, *Journal of Heat Transfer research* 46(12) (2015) 1123–1145.
21. U. Pahamly, **M. J. Hosseini**, A. A. Ranjbar, Investigating geometrical and flow parameters in behavior of melting Phase Change Material in a double pipe heat exchanger, *Modares Mechanical Engineering Journal* 15 (2015) 183-191.
22. **M. J. Hosseini**, M. Rahimi, R. Bahrampoury, Thermal analysis of PCM containing heat exchanger enhanced with normal annular fins, *Mechanical Science* 6 (2015) 221–234.
23. M. Esapour, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Phase change in multi-tube heat exchangers, *Renewable Energy* 85 (2016) 1017-1025.
24. U. Pahamly, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Analysis of the effect of eccentricity and operational parameters in PCM-filled single-pass shell and tube heat exchangers, *Renewable Energy* 97 (2016) 344-357.
25. M. Esapour, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Numerical study on geometrical specifications and operational parameters of multi-tube heat storage systems, *Applied Thermal Engineering* 109 (2016) 351–363.
26. N. Kousha, **M. J. Hosseini**, M. R. Aligoodarz, R. Pakrouh, R. Bahrampoury, Effect of Inclination Angle on the Performance of a Shell and Tube Heat Storage Unit - An Experimental Study, *Applied Thermal Engineering* 112 (2017) 1497-1509.
27. S. E. Ghasemi, **M. J. Hosseini**, A. A. Ranjbar, Thermal and hydrodynamic characteristics of water-based suspensions of Al₂O₃ nanoparticles in a novel mini-channel heat sink, *Journal of Molecular Liquids* 230 (2017) 550-556.
28. M. Esapour, **M. J. Hosseini**, A. A. Ranjbar, Effect of increasing number and arrangement of hot fluid tube on melting behavior of Phase Change Material in a triplex tube heat exchanger, *Journal of Solid and Fluid Mechanics* 6 (2017) 249-262.
29. S. E. Ghasemi, **M. J. Hosseini**, A. A. Ranjbar, Numerical study on effect of CuO-water nanofluid on cooling performance of two different cross-sectional heat sinks, *Advanced Powder Technology* 6 (2017) 1495-1504.

30. S. E. Ghasemi, **M. J. Hosseini**, A. A. Ranjbar, Experimental evaluation of cooling performance of circular heat sinks for heat dissipation from electronic chips using nanofluid, *Mechanics Research Communications* 84 (2017) 85-89.
31. S. E. Ghasemi, **M. J. Hosseini**, A. A. Ranjbar, Experimental and numerical investigation of circular minichannel heat sinks with various hydraulic diameter for electronic cooling application, *Microelectronics Reliability* 73 (2017) 97-105.
32. M. H. Joneidi, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Experimental Investigation of Phase Change in a Cavity for Varying Heat Flux and Inclination Angles, *Experimental Thermal and Fluid Science* 88 (2017) 594-607.
33. S. E. Ghasemi, **M. J. Hosseini**, A. A. Ranjbar, Numerical study on the convective heat transfer of nanofluid in a triangular mini-channel heat sink using the Eulerian–Eulerian two-phase model, *Journal Numerical Heat Transfer, Part A: Applications* 72 (2017) 185-196.
34. U. Pahamly, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Inner Pipe Downward Movement Effect on Melting of PCM in a Double Pipe Heat Exchanger, *Applied Mathematics and Computation* 316 (2017) 30-42.
35. R. Pakrouh, **M. J. Hosseini**, A.A. Ranjbar, R. Bahrampoury, Thermodynamic analysis of a packed bed latent heat thermal storage system simulated by an effective packed bed model, *Energy* 140 (2017) 861-878.
36. U. Pahamly, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Effect of Nanoparticle dispersion and inclination angle on melting of PCM in a shell and tube heat exchanger, *Journal of the Taiwan Institute of Chemical Engineers* 81 (2017) 316-334.
37. S. E. Ghasemi, **M. J. Hosseini**, A. A. Ranjbar, Forced convective heat transfer of nanofluid as a coolant flowing through a heat sink: Experimental and numerical study, *Journal of Molecular Liquids* 248 (2017) 264-270.
38. M. Kazemi, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Improvement of Longitudinal Fins Configuration in Latent Heat Storage Systems, *Renewable Energy* 116 (2018) 447-457.
39. R. Ahmadi, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrampoury, Phase change in spiral coil heat storage systems, *Sustainable Cities and Society* 38 (2018) 145-157.

40. M. Gorzin, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrapoury, Investigation of PCM charging for the energy saving of domestic hot water system, *Applied Thermal Engineering* 137 (2018) 659–668.
41. S. E. Ghasemi, **M. J. Hosseini**, A. A. Ranjbar, Cooling Performance Analysis of Water-Cooled Heat Sinks with Circular and Rectangular Mini-channels using Finite Volume Method, *Iranian Journal of Chemistry and Chemical Engineering*, (2018) 37, 231–239.
42. M. Faghani, **M. J. Hosseini**, R. Bahrapoury, Numerical Simulation of Melting between Two Elliptical Cylinders, *Alexandria Engineering Journal* (2018) 57, 577–586.
43. M. Rahimi, **M. J. Hosseini**, M. Gorzin, Effect of helical diameter on the performance of shell and helical tube heat exchanger: An experimental approach, *Sustainable Cities and Society* 44 (2019) 691–701.
44. S. M. Borhani, **M. J. Hosseini**, A. A. Ranjbar, R. Bahrapoury, Investigation of phase change in a spiral-fin heat exchanger, *Applied Mathematical Modelling* 67 (2019) 297–314.

Conference Papers:

1. **M. J. Hosseini**, M. Farhadi, K. Sedighi, "Effect of wall-mounted obstacles on mixed convective heat transfer and entropy generation on in the Poiseuille–Benard Channel", *16th Annual (International) Conference of Mechanical Engineering ISME 2008, May 13-15, Shahid Bahonar University of Kerman, Kerman, Iran.*
2. **M. J. Hosseini**, M. Farhadi, K. Sedighi, M. Nourollahi, "Investigation the effect of the shape and arrangement of the wall-mounted obstacles over mixed convection heat transfer in Poiseuille–Benard Channel", *12th Fluid Dynamics Conference, April 28-30, 2009, Babol Noshirvani University of Technology, Faculty of Mechanical Engineering, Babol, Iran.*
3. M. Rahimi, M. Farhadi, K. Sedighi, **M. J. Hosseini**, "The effect of blockage ratio with inlet pulsating flow on convective heat transfer and entropy generation over parallel plates", *12th Fluid Dynamics Conference, April 28-30, 2009, Babol Noshirvani University of Technology, Faculty of Mechanical Engineering, Babol, Iran.*

4. R. Bahrapoury, **M. J. Hosseini**, M. Rahimi, "Sensitivity analysis of a double glazing flat solar collector", *Second National Conference Clean Energy, December 5, 2013, Faculty of Shahid Mofatteh, Hamedan, Iran.*
5. R. Bahrapoury, **M. J. Hosseini**, M. Rahimi, "Geometrical and two dimensional analysis of the absorber tube displacement in a parabolic through collector ", *4th Annual Clean Energy Conference (ACEC2014), June 25-26, 2014, Graduate University of Advanced Technology, Kerman, Iran.*
6. R. Pakrooh, **M. J. Hosseini**, A.A. Ranjbar, "Numerical study of the effect of copper nanoparticles on the melting process of paraffin in a 2D heat sink", *National Conference on energy consumption Optimization in Science and Engineering, September 4, 2014, Babol, Iran.*
7. U. Pahamly, **M. J. Hosseini**, A.A. Ranjbar, "Investigation of the effects of temperature and mass flow rate of the inlet HTF on melting process in a shell and tube heat exchanger ", *WCE 2015, shiraz, Iran.*
8. U. Pahamly, **M. J. Hosseini**, A.A. Ranjbar, "Investigation of the effect of eccentricity in a shell and tube Heat exchanger", *WCE 2015, shiraz, Iran.*
9. M. Esapour, **M. J. Hosseini**, A.A. Ranjbar, "Investigation of number of HTF carrying tubes in a triplex heat exchanger", *WCE 2015, shiraz, Iran.*
10. U. Pahamly, **M. J. Hosseini**, A.A. Ranjbar, "Numerical Study of the effects of copper Nanoparticles on melting process in a shell and tube Heat exchanger", *The Second International Conference on Energy Science Branch, 2015, Tonekabon, Iran.*
11. M. Esapour, **M. J. Hosseini**, A.A. Ranjbar, "Numerical study of the increasing of tubes number on in a triplex heat exchanger", *The Second International Conference on Energy Science Branch, 2015, Tonekabon, Iran.*
12. M. Gorzin, **M. J. Hosseini**, A.A. Ranjbar, "Numerical Study of the effect of PCM mass distribution on melting process in a triplex heat exchanger", *24th Annual International Conference on Mechanic Engineering (ISME2016),Yazd, Iran.*
13. N. Kosha, **M. J. Hosseini**, M. R. Aligodarz, "Experimental study on four-tube heat exchanger containing phase change material", *24th Annual International Conference on Mechanic Engineering (ISME2016),Yazd, Iran.*

14. M. Kazemi, **M. J. Hosseini**, A.A. Ranjbar, “Numerical investigation of the phase change in shell and tube heat exchanger using extended surfaces”, *1th national Conference on Mechanic and mechatronics, Shahrekord, Iran.*
15. Sh. Shirazi, **M. J. Hosseini**, A.A. Ranjbar, “Improve the performance of Calina's cycle KSC11 using ejector”, *3th Conference on Heat and Mass Transfer, Babol, Iran.*
16. A. Ebrahimi, **M. J. Hosseini** , A.A. Ranjbar, M. Rahimi, “Investigation of the melting process of PCM in a spiral tube shell heat exchanger using heat pipe”, *26th Annual International Conference on Mechanic Engineering (ISME2018), Semnan, Iran.*
17. S. Saedi, **M. J. Hosseini**, A.A. Ranjbar, M. Rahimi, “Analysis of the melting process of PCM in a flat spiral tube heat exchanger”, *26th Annual International Conference on Mechanic Engineering (ISME2018), Semnan, Iran.*

Teaching Experience

- Heat transfer 1, 2
- Fluid Mechanics 1, 2
- Thermodynamics 1, 2
- Mechanical Installation
- Application of Solar Energy
- Project Control Management

Work Experience

- 2018- Now, Dean for Academic Programs of Golestan University
- 2018-Now, Member of research committee of Golestan Province
- 2015-Now, Director of sustainability office in Golestan University
- 2015-2018, Member of Incubator of Golestan University
- 2014-2017, Head of department of mechanical engineering
- 2012– 2015, Evaluator in Defense Industries, Training and Research Institute (Shahid Fahmide center of innovation and scientific cooperation)
- 2008-2010, Lecturer in Noshirvani University of Technology (Babol)
- 2010-2012, Cooperation with Defense Science and Technology Institute of North (Fereydonkenar)
- 2012-2013, Founder of mechanical engineering department in Golestan University
- 2013-Now, Supervisor of more than 20 PhD and MS theses

Honor and Award

- 2007-Now, Member of elite Science Foundation
- 2011, Distinguished Researcher in Mazandaran Province
- 2006, Ranked 1th Among B. Sc Students of Mechanical Engineering Mazandaran University
- 2008, Ranked 1th Among M. Sc Students of Mechanical Engineering Mazandaran University
- 2010, Ranked 1th Among Ph. D Students of Mechanical Engineering Mazandaran University
- 2015, Selected Researcher of Golestan University on the occasion of research week.
- 2016, Winner of the Research grand of Kazem Ashtiani for Young Assistant Professors (elite Science Foundation)

- 2016, Distinguished Researcher in Golestan Province on the occasion of research week.
- 2018, Distinguished Researcher in Golestan Province on the occasion of research week.
- 2018, Selected Researcher of Golestan University on the occasion of research week.

Research Projects

- Numerical study on a novel CPU of a personal computer enhanced with a phase change based cooling system, Golestan university, Project executive (2012-2013)
- Experimental evaluation of melting process enhanced with nano particles in a cubic cavity subjected to constant heat flux, Golestan university, Project executive (2012-2014)
- Simulation of melting process in a double pipe heat exchanger for varying tile angle orientation and eccentricity, Project executive (2013-2014)
- Preparation of climate-based regulation criteria for energy saving, renovation and equipping school institute, Project assistant (2011-2013)
- Experimental investigation of geometrical and operating parameters on melting process of a PCM in a shell and tube heat exchanger, National Elite Foundation, Main assistant (2016/2018)